

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DANIEL B. DORAN

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Appeal No. 96-2261  
Application 08/026,669<sup>1</sup>

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ON BRIEF

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Before GARRIS, WARREN and OWENS, *Administrative Patent Judges*.  
OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the examiner's final rejection of claims 17-31 and refusal to allow claim 32 which was added after final rejection.

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<sup>1</sup> Application for patent filed March 5, 1993.

*THE INVENTION*

Appellant's claimed invention is directed toward an automated method for washing objects wherein the objects are exposed to ultraviolet radiation, resist developer and a surfactant solution. Appellant states that the method is capable of removing resist flakes from semiconductor wafer cassettes and carriers without the use of solvents (specification, page 1). Claim 32 is illustrative and reads as follows:

32. A method for automated washing of objects,  
comprising

the following steps:

- (a) placing the objects to be washed in a chamber;
- (b) exposing the objects to ultraviolet radiation;
- (c) applying resist developer fluid to the objects;
- (d) rinsing the resist developer;
- (e) applying surfactant solution to the objects;
- (f) rinsing the surfactant solution from the objects;

and

blowing air into the chamber to dry the objects.

*THE REFERENCES*

Bardina et al. (Bardina)	4,560,417	Dec. 24, 1985
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Appeal No. 96-2261  
Application 08/026,669

Tomisawa et al. (Tomisawa)	4,517,282	May 14, 1985
Cherry et al. (Cherry)	4,832,753	May 23, 1989

L. Solymar and D. Walsh (Solymar), *Lectures on the Electrical Properties of Materials* 248-51 (Oxford University Press 1990).

#### *THE REJECTIONS*

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 17-21, 23, 25-27, 29, 30 and 32 over Bardina in view of Solymar; claims 22 and 31 over Bardina in view of Solymar and Cherry; and claims 24 and 28 over Bardina and Solymar in view of Tomisawa.

#### *OPINION*

We have carefully considered all of the arguments advanced by appellant and the examiner and agree with appellant that the aforementioned rejections are not well founded. Accordingly, we do not sustain these rejections.

We need to discuss only appellant's broadest claim, which is claim 32.

Bardina discloses an automated method for decontaminating semiconductor wafer handling equipment wherein the equipment is sprayed with a mixture of detergent and deionized water and

then is rinsed and dried (col. 1, lines 12-13; col. 5, line 47 - col. 6, line 41; col. 7, line 56 - col. 8, line 10).

Bardina does not disclose the steps recited in appellant's claim 32 of exposing the objects to ultraviolet radiation, applying resist developer fluid to the objects, and rinsing the resist developer. For a teaching of these features, the examiner relies upon Solymar. This reference discusses the stages in the production of microelectronic circuits. In one stage, a photoresist is applied on an oxide layer, a mask is placed over the photoresist, and the photoresist is exposed to ultraviolet light through transparent areas in the mask (pages 249-51; figure 9.51(b)). Solymar teaches that photoresists are organic compounds whose solubility is affected by exposure to ultraviolet light, and that the exposed areas of a positive photoresist, which he uses, can be washed away by a suitable developer (page 249).

Appellant argues that Solymar does not disclose or suggest a cleaning method in which ultraviolet light and developer wash are used (brief, page 7). In appellant's view, only appellant's specification, not the applied references, provides the idea of such a method (brief, page 8).

Appeal No. 96-2261  
Application 08/026,669

The examiner argues (final rejection, paper no. 9, mailed February 13, 1995, page 3):

It would have been obvious to a person skilled in the art at the time the invention was made to expose the objects to be cleaned to ultraviolet light and a spray of resist developer fluid because this is a well known method of removing positive photoresists from substrates. After all, resist/developer systems are designed to do this.

The examiner's argument is not well taken because the examiner has not explained, and it is not apparent, why the use of ultraviolet light exposure and resist developer to form microcircuits would have fairly suggested, to one of ordinary skill in the art, use of ultraviolet light exposure and resist developer for cleaning Bardina's wafer handling equipment. In order for a *prima facie* case of obviousness to be established, the teachings from the prior art itself must appear to have suggested the claimed subject matter to one of ordinary skill in the art. See *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the examiner is not sufficient to establish a *prima facie* case of obviousness. See *In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir.

Appeal No. 96-2261  
Application 08/026,669

1992).

The motivation relied upon by the examiner for combining the references comes solely from the description of appellant's invention in his specification. Thus, the examiner used impermissible hindsight when rejecting the claims. See *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Rothermel*, 276 F.2d 393, 396, 125 USPQ 328, 331 (CCPA 1960).

The steps of exposure to ultraviolet light and applying resist developer are included in all of appellant's independent claims. Accordingly, for the above reasons, we do not sustain the examiner's rejection of any of the claims.

#### DECISION

The rejections under 35 U.S.C. § 103 of claims 17-21, 23, 25-27, 29, 30 and 32 over Bardina in view of Solymar, claims 22 and 31 over Bardina in view of Solymar and Cherry, and claims 24 and 28 over Bardina and Solymar in view of Tomisawa,

Appeal No. 96-2261  
Application 08/026,669

are reversed.

*REVERSED*

BRADLEY R. GARRIS	)	
Administrative Patent Judge	)	
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	)	
CHARLES F. WARREN	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
TERRY J. OWENS	)	
Administrative Patent Judge	)	

Appeal No. 96-2261  
Application 08/026,669

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